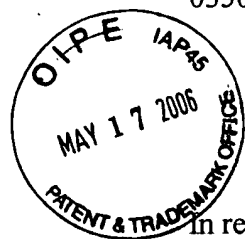


IFW

03500.017855

PATENT APPLICATION



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

TOSHIHIRO IFUKU ET AL.

Application No.: 10/532,020

Filed: April 20, 2005

For: PIEZOELECTRIC ELEMENT

)  
:  
Examiner: K. Feggins  
)  
:  
Group Art Unit: 2881  
)  
:  
)  
:  
)  
:  
)  
May 17, 2006

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

SUBMISSION OF NOTIFICATION CONCERNING TRANSMITTAL OF  
COPY OF INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

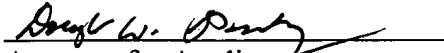
Sir:

Applicants received a Notification Concerning Transmittal of Copy of  
International Preliminary Report on Patentability in connection with corresponding PCT  
application PCT/JP2004/000964. A copy of the received paper is enclosed herewith for the  
Examiner's convenience.

BEST AVAILABLE COPY

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

  
Attorney for Applicants  
Douglas W. Pinsky  
Registration No. 46,994

FITZPATRICK, CELLA, HARPER & SCINTO  
30 Rockefeller Plaza  
New York, New York 10112-3801  
Facsimile: (212) 218-2200  
DWP/klm

DC\_MAIN 240821v1

# PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

## PCT

NOTIFICATION CONCERNING  
TRANSMITTAL OF COPY OF INTERNATIONAL  
PRELIMINARY REPORT ON PATENTABILITY  
(CHAPTER I OF THE PATENT COOPERATION  
TREATY)

(PCT Rule 44bis.1(c))

To:

OKABE, Masao  
No. 602, Fuji Bldg.  
2-3, Marunouchi 3-chome  
Chiyoda-ku, Tokyo 100-0005  
JAPON



Date of mailing (day/month/year) 18 August 2005 (18.08.2005)		
Applicant's or agent's file reference CFO17855WO		IMPORTANT NOTICE
International application No. PCT/JP2004/000964	International filing date (day/month/year) 30 January 2004 (30.01.2004)	Priority date (day/month/year) 31 January 2003 (31.01.2003)
Applicant CANON KABUSHIKI KAISHA et al		

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.+41 22 740 14 35

Authorized officer

Masashi Honda

Facsimile No.+41 22 338 70 10

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference CFO17855WO	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. PCT/JP2004/000964	International filing date ( <i>day/month/year</i> ) 30 January 2004 (30.01.2004)	Priority date ( <i>day/month/year</i> ) 31 January 2003 (31.01.2003)
International Patent Classification (IPC) or national classification and IPC H01L 41/09, 41/187, 41/24, B41J 2/045, 2/055		
Applicant CANON KABUSHIKI KAISHA		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	<p>This <b>REPORT</b> consists of a total of 4 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
<input checked="" type="checkbox"/>	Box No. I	Basis of the report																							
<input type="checkbox"/>	Box No. II	Priority																							
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability																							
<input type="checkbox"/>	Box No. IV	Lack of unity of invention																							
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																							
<input type="checkbox"/>	Box No. VI	Certain documents cited																							
<input type="checkbox"/>	Box No. VII	Certain defects in the international application																							
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 740 14 35</p>	<p>Date of issuance of this report 05 August 2005 (05.08.2005)</p> <p>Authorized officer  Masashi Honda</p> <p>Telephone No. +41 22 338 70 10</p>
--	---

# PATENT COOPERATION TREATY

REC'D 13 MAY 2004

From the  
INTERNATIONAL SEARCHING AUTHORITY

WIPO

PCT

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To: <b>MASAO OKABE</b>  No. 602, Fuji Bldg., 2-3, Marunouchi 3-chome, Chiyoda-ku, Tokyo 100-0005 JAPAN
---

Date of mailing (day/month/year)	<b>11. 5. 2004</b>
-------------------------------------	--------------------

Applicant's or agent's file reference <b>CF017855WO</b>		FOR FURTHER ACTION See paragraph 2 below	
International application No. <b>PCT/JP2004/000964</b>	International filing date (day/month/year) <b>30.01.2004</b>	Priority date (day/month/year) <b>31.01.2003</b>	
International Patent Classification (IPC) or both national classification and IPC Int.Cl. <sup>7</sup> <b>H01L41/09, 41/187, 41/24, B41J2/045, 2/055</b>			
Applicant <b>CANON KABUSHIKI KAISHA</b>			

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP  <b>Japan Patent Office</b>  3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer  <b>AKIRA SHOYAMA</b>	4M 3238
	Telephone No. +81-3-3581-1101 Ext. 3462	

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/000964

Box No. I

Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/ 000964

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>2-16</u>	YES
	Claims	<u>1</u>	NO
Inventive step (IS)	Claims	<u>2-12</u>	YES
	Claims	<u>1, 13-16</u>	NO
Industrial applicability (IA)	Claims	<u>1-16</u>	YES
	Claims		NO

2. Citations and explanations

D1 JP 10-251093 A(KABUSHIKI KAISHA TOSHIBA)1998.09.22

D2 WO 97/03472 A1(ULLAKKO)1997.01.30

D3 US 6387476 B1(SONY CORPORATION)2002.05.14

D4 US 5936329 A(NGK INSULATORS,LTD.)1999.08.10

Claim 1

The subject matters of claim 1 do not appear to be novel with respect to D1.  
D1 shows that the piezoelectric material has a twin crystal.(see [0003]-[0006])

Claims 2-12

The subject matters of claims 2-12, details of the twin crystal, are neither disclosed in the closest prior documents D1-D4 cited in the ISR nor obvious to a person skilled in the art.

Therefore, the subject matters of claims 2-12 appear to be novel and to involve an inventive step.

Claims 13-16

The subject matters of claims 13-16 do not appear to involve an inventive step in view of D1.

The subject matters of claims 13-16 are well-known arts in the piezoelectric device field.

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☒ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☒ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**